

IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Currently Amended): A method for chemically decontaminating a radioactive material comprising iron, ~~the method~~ comprising:

~~reducing-dissolving step for setting~~ contacting at least one surface of the radioactive material in contact with a reducing decontamination liquid comprising formic acid and oxalic acid;

wherein mole fraction of the formic acid in the reducing decontamination liquid is 0.9 or more including mono-carboxylic acid and di-carboxylic acid; and

contacting the at least one surface of the radioactive material with an oxidizing decontamination liquid comprising at least one oxidizer;

separating and removing Fe^{2+} ions and Fe^{3+} ions, which have eluted into the reducing decontamination liquid, with at least one cation resin;

decomposing the formic acid with a hydrogen peroxide solution; and

decomposing the oxalic acid with the oxidizing decontamination liquid

~~oxidizing-dissolving step for setting the surface of the radioactive material in contact with oxidizing decontamination liquid including oxidizer.~~

Claim 2 (Currently Amended): The method ~~according to~~ of Claim 1, wherein:
the radioactive material ~~includes~~ comprises stainless steel; and
wherein the contacting at least one surface of the radioactive material in contact with a reducing decontamination liquid comprising formic acid and oxalic acid~~the reducing-dissolving step includes lowering potential of~~ further comprises lowering the potential of

~~the radioactive material by applying direct current to the radioactive material material to a corrosion region of stainless steel.~~

Claim 3 (Currently Amended): The method ~~according to~~ of Claim 1, further comprising repeating, at least one time, the contacting at least one surface of the radioactive material with a reducing decontamination liquid comprising formic acid and oxalic acid; and

the contacting the at least one surface of the radioactive material with an oxidizing decontamination liquid comprising at least one oxidizer
~~a plurality of repeated pairs of steps, each pair including the reducing dissolving step and the oxidizing dissolving step.~~

Claims 4-5 (Canceled).

Claim 6 (Currently Amended): The method ~~according to~~ of Claim 1, wherein the oxidizer ~~includes at least one~~ is selected from ~~[[a]]~~ the group consisting of ozone, permanganic acid, ~~and permanganate, and combinations thereof.~~

Claims 7-8 (Canceled).

Claim 9 (Withdrawn): A system for chemically decontaminating radioactive material which forms a passage for liquid to flow through, the system comprising:
a circulation loop connected to the passage for circulating the decontamination liquid,
the circulation loop having:

a decontamination agent feeder for feeding mono-carboxylic acid and di-carboxylic to the decontamination liquid;

a hydrogen peroxide feeder for feeding hydrogen peroxide to the decontamination liquid;

an ion exchanger for separating and removing metal ions in the decontamination liquid; and

an ozonizer for injecting ozone into the decontamination liquid.

Claim 10 (Withdrawn): A system for chemically decontaminating radioactive material, the system comprising:

a decontamination tank for containing radioactive material and decontamination liquid;

a direct current power source for providing potential between the radioactive material and an anode; and

a circulation loop connected to the tank for circulating the decontamination liquid, the circulation loop having:

a decontamination agent feeder for feeding mono-carboxylic acid and di-carboxylic acid into the decontamination liquid;

a hydrogen peroxide feeder for feeding hydrogen peroxide into the decontamination liquid;

an ion exchanger for separating and removing metal ions in the decontamination liquid; and

an ozonizer for injecting ozone into the decontamination liquid.

Claim 11 (Withdrawn): The system according to Claim 10, further comprising:
an electric insulating plate disposed in the decontamination tank; and a support for supporting the radioactive material, the support being disposed on the electric insulating plate and being made from corrosion resistant metal.

Claim 12 (New): The method of Claim 2, wherein the oxidizer is selected from the group consisting of ozone, permanganic acid, permanganate, and combinations thereof.

Claim 13 (New): The method of Claim 3, wherein the oxidizer is selected from the group consisting of ozone, permanganic acid, permanganate, and combinations thereof.

Claim 14 (New): The method of Claim 2, further comprising repeating, at least one time,

the contacting at least one surface of the radioactive material with a reducing decontamination liquid comprising formic acid and oxalic acid; and

the contacting the at least one surface of the radioactive material with an oxidizing decontamination liquid comprising at least one oxidizer.

Claim 15 (New): The method of Claim 14, wherein the oxidizer is selected from the group consisting of ozone, permanganic acid, permanganate, and combinations thereof.